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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/592,956	07/25/2007	Yoshihiko Abe	1029650-000176	8661

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BUCHANAN, INGERSOLL & ROONEY PC
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EXAMINER

HEINCER, LIAM J

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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06/19/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary	Application No. 10/592,956	Applicant(s) ABE ET AL.	
	Examiner Liam J. Heincer	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21 and 23-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21 and 23-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 10, 2009 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21, 23-29, and 31-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Pressato et al. (WO 9707833).

Considering Claims 21 and 33: Pressato et al. teaches a method for preventing adhesion (title) comprising providing a polysaccharide derivative containing active ester groups on the side chain and hydroxyl groups in the same molecule or in a second polysaccharide molecule capable of reacting with the ester group, and crosslinking the polymer by forming ester bonds between the activated ester and the hydroxyl group (14:1-18). Pressato et al. teaches the crosslinking as occurring in the presence of a base/under alkaline conditions (19:15-24). Pressato et al. also teaches that the crosslinked polymer prevents adhesion in biological sites (Study 4).

Considering Claim 23: Pressato et al. teaches that the polysaccharide adheres to the biological surface (Study 4). As such there would inherently be some reaction between the polysaccharide and the biological surface in order for the polysaccharide to adhere to the surface.

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Considering Claims 24 and 25: Pressato et al. teaches using an N-hydroxysuccinimide activating group (15:8-16:3).

Considering Claim 26: Pressato et al. teaches 5% of the carboxy groups of the hyaluronic acid being activated (14:19-35). As the repeat unit of hyaluronic acid has a molecular weight of ~377 and one carboxy group per repeat unit, 5% of the carboxy groups being esterified would result in ~1.3 mmoles/g of ester group.

Considering Claim 27: Pressato et al. teaches polysaccharide as being hyaluronic acid/a polysaccharide with additional carboxyalkyl groups (14:1-18). Additionally, as only 5% of the carboxyl groups are esterified, there would also be carboxyl groups present in the hyaluronic derivative.

Considering Claim 28: Pressato et al. teaches using free or salified hyaluronic acid (15:8-13).

Considering Claim 29: Pressato et al. teaches the reaction as occurring in a polar aprotic solvent (17:12-22) at a temperature between 0 and 150 °C. As the polar aprotic liquid is described as a solvent, the polysaccharide must be at least partially soluble at the claimed temperature in the solvent.

Considering Claim 31: Pressato et al. teaches the crosslinking as occurring in the presence of a base/under alkaline conditions (19:15-24). As Pressato et al. teaches that crosslinking occurs (Example 5) and the original specification states that the crosslinking will not occur below 7.5 (¶0070) the reaction must inherently occur in the claimed range. See MPEP 2112.

Considering Claim 32 and 34: Pressato et al. teaches that the crosslinked hyaluronic acid can be used along with a synthetic polymer (6:28-35).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pressato et al. (WO 9707833) as applied to claim 21 above, and further in view of Della Valle et al. (US Pat. 5,676,964).

Considering Claim 30: Pressato et al. teaches the method of claim 21 as shown above.

Pressato et al. does not teach using a polysaccharide that does not naturally contain a carboxyl or carboxyalkyl group. However, Della Valle et al. teaches using carboxymethyl cellulose, starch or chitin in a self crosslinking gel (8:24-30). Pressato et al. and Della Valle et al. are analogous art as they are concerned with the same field of endeavor, namely self crosslinking polysaccharides. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used an active polysaccharide of Della Valle et al. in the process of Pressato et al., and the motivation to do so would have been, as Della Valle et al. suggests, they are functionally equivalent to the hyaluronic acid derivative of Pressato et al. (7:7-14).

Response to Arguments

Applicant's arguments with respect to claims 21 and 23-34 have been considered but are moot in view of the new ground(s) of rejection.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/

Supervisory Patent Examiner, Art Unit 1796

LJH

June 8, 2009